GE ELECTRONICS **6M11**

COMPACTRON TWIN-TRIODE PENTODE

DESCRIPTION AND RATING

The 6M11 is a compactron containing two high-mu triodes and a sharp-cutoff pentode.

GENERAL

ELECTRICAL

Cathode - Coated Unipotential

Heater Characteristics and Ratings		
Heater Voltage, AC or DC*	6.3±0.6	Volts
Heater Current†	0.77	Amperes
Direct Interelectrode Capacitances‡		
Triode (Each Section)		
Grid to Plate: (Tg to Tp)	1.8	pf
Input: Tg to (Tk + Pk + Pg3 + h + i.s.)	3.4	pf
Output: Tp to (Tk + Pk + Pg3 + h + i.s.)	0.8	pf
Pentode		
Grid-Number 1 to Plate: (Pg1 to Pp)	0.03	pf
Input: Pg1 to (Pk + Pg2 + Pg3 + i.s.)	12	pf
Output: Pp to (Pk + Pg2 + Pg3 + i.s.)	2.8	pf

MECHANICAL

Mounting Position - Any
Envelope - T-9, Glass
Base - E12-70, Button 12-Pin
Outline Drawing - EIA 9-56

Maximum Diameter	1.188	Inches
Maximum Over-all Length	1.875	Inches
Maximum Seated Height	1.500	Inches

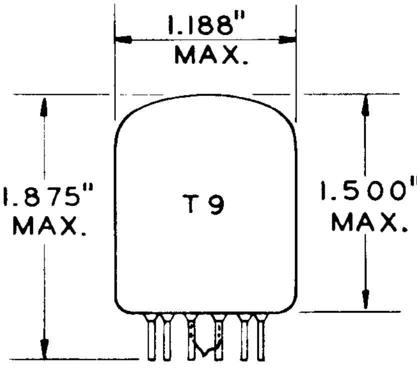
MAXIMUM RATINGS

Design-Maximum ratings are limiting values of operating and environmental conditions applicable to a bogey electron tube of a specified type as defined by its published data and should not be exceeded under the worst probable conditions.

The tube manufacturer chooses these values to provide acceptable serviceability of the tube, making allowance for the effects of changes in operating conditions due to variations in the characteristics of the tube under consideration.

The equipment manufacturer should design so that initially and throughout life no design-maximum value for the intended service is exceeded with a bogey tube under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, equipment control adjustment, load variation, signal variation, environmental conditions, and variations in the characteristics of all other electron devices in the equipment.

PHYSICAL DIMENSIONS

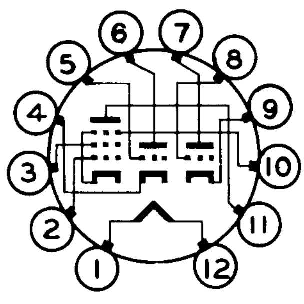


EIA 9-56

TERMINAL CONNECTIONS

Pin 1 - Heater
Pin 2 - Pentode Grid Number 1
Pin 3 - Pentode Grid Number 2 (Screen)
Pin 4 - Triode Cathode (Section 2)
Pin 5 - Triode Grid (Section 2)
Pin 6 - Triode Plate (Section 2)
Pin 7 - Triode Plate (Section 1)
Pin 8 - Triode Grid (Section 1)
Pin 9 - Triode Cathode (Section 1)
Pin 10 - Pentode Cathode, Grid Number 3, and Internal Shield
Pin 11 - Pentode Plate
Pin 12 - Heater

BASING DIAGRAM



EIA 12CA

MAXIMUM RATINGS (Cont'd)

DESIGN-MAXIMUM VALUES

	Pentode Section	Each Triode Section	
Plate Voltage	330	330	Volts
Screen Supply Voltage	330	---	Volts
Screen Voltage - See Screen Rating Chart			
Positive DC Grid-Number 1 Voltage	0	0	Volts
Plate Dissipation	3.1	2.25	Watts
Screen Dissipation	0.65	---	Watts
Heater-Cathode Voltage			
Heater Positive with Respect to Cathode			
DC Component	100	100	Volts
Total DC and Peak	200	200	Volts
Heater Negative with Respect to Cathode			
Total DC and Peak	200	200	Volts
Grid Circuit Resistance			
With Cathode Bias	1.0	0.68	Megohms

CHARACTERISTICS AND TYPICAL OPERATION

AVERAGE CHARACTERISTICS

	Pentode Section	Each Triode Section	
Plate Voltage	125	125	Volts
Screen Voltage	125	---	Volts
Cathode-Bias Resistor	56	120	Ohms
Amplification Factor	---	58	
Plate Resistance, approximate	200000	10000	Ohms
Transconductance	13000	8000	Micromhos
Plate Current	11	8.0	Milliamperes
Screen Current	3.4	---	Milliamperes
Grid-Number 1 Voltage, approximate			
Ib = 20 Microamperes	-3.5	---	Volts
Grid-Number 1 Voltage, approximate			
Ib = 50 Microamperes	---	-4.5	Volts

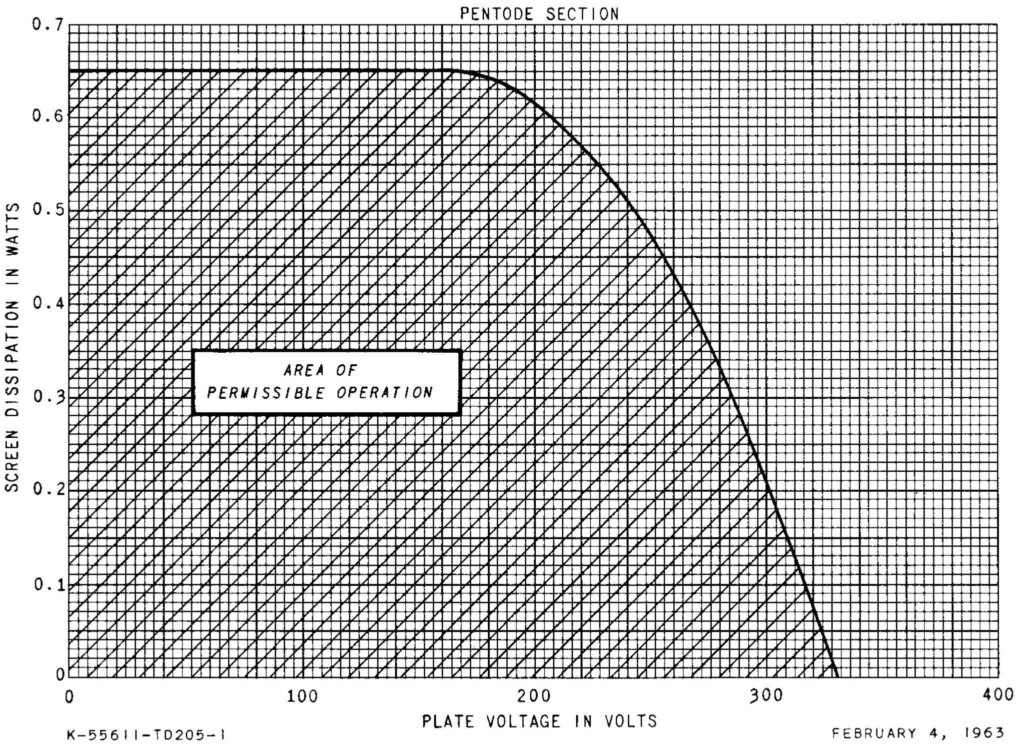
FOOTNOTES

* The equipment designer should design the equipment so that heater voltage is centered at the specified bogey value, with heater supply variations restricted to maintain heater voltage within the specified tolerance.

† Heater current of a bogey tube at Ef = 6.3 volts.

‡ With external shield (EIA 308) connected to pin 10.

SCREEN RATING CHART

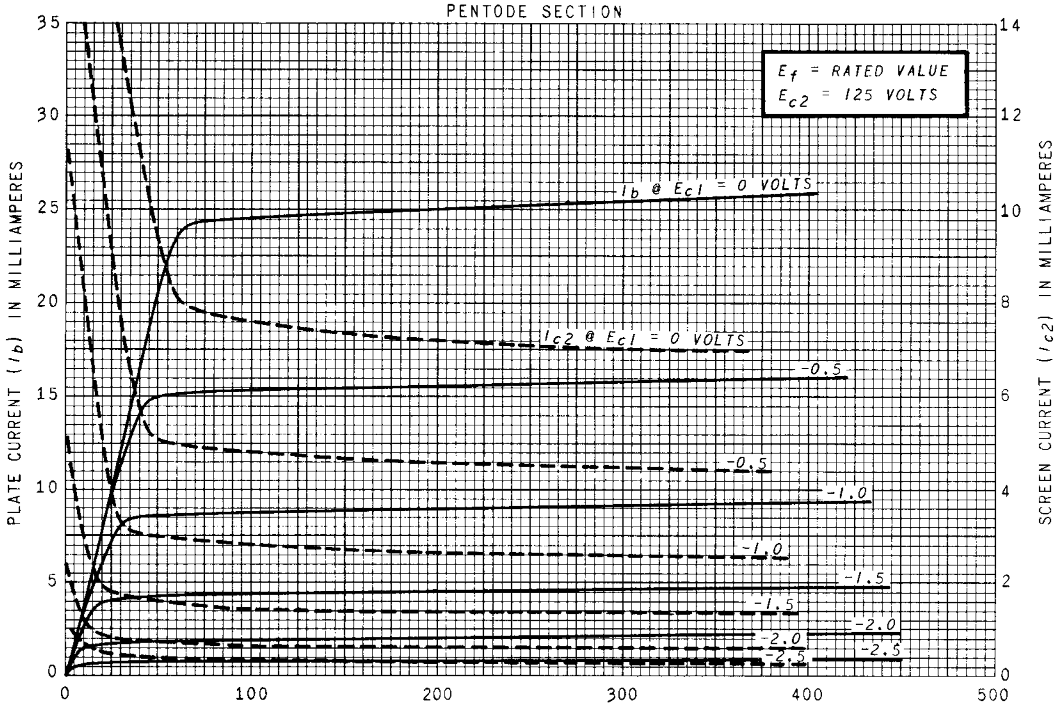


K-55611-TD205-1

FEBRUARY 4, 1963

AVERAGE PLATE CHARACTERISTICS

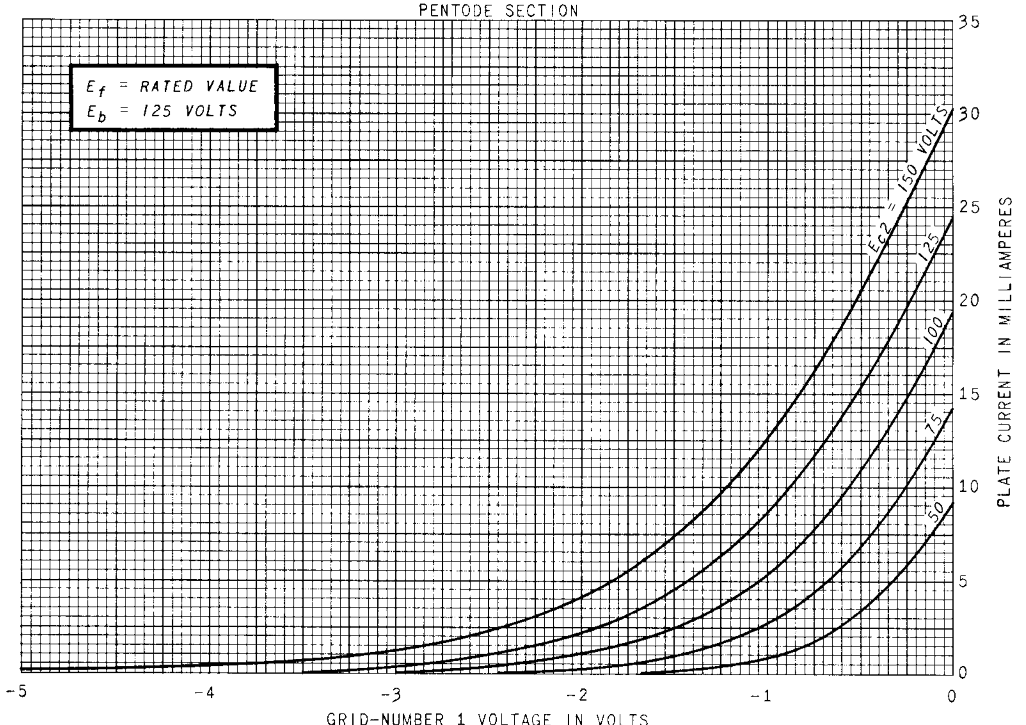
PENTODE SECTION



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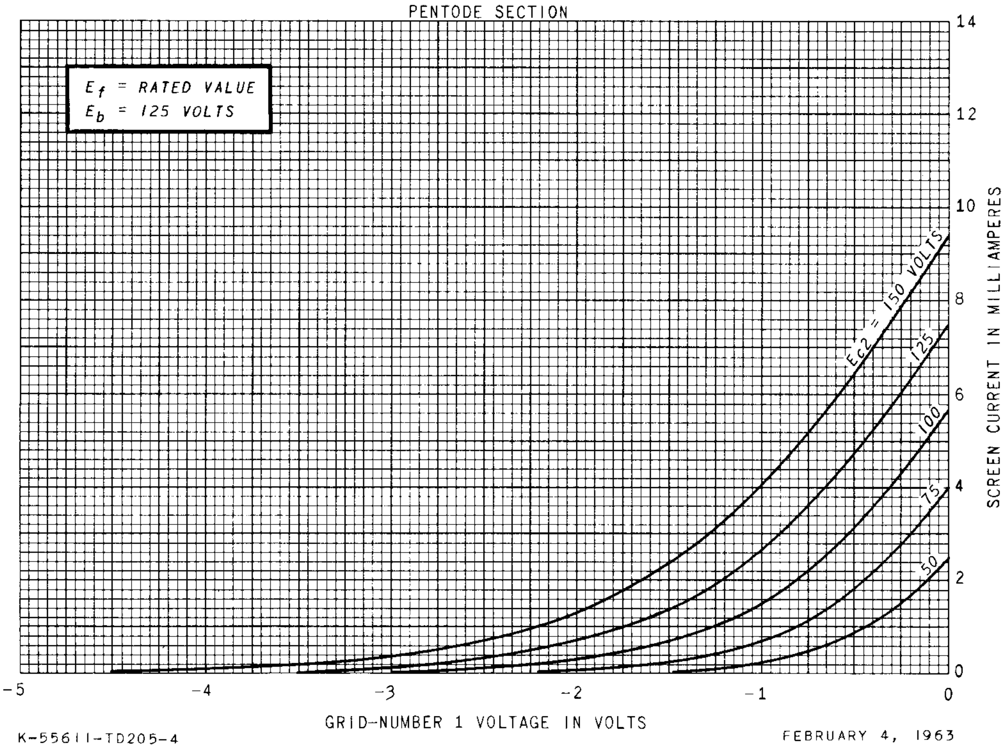
AVERAGE TRANSFER CHARACTERISTICS

PENTODE SECTION

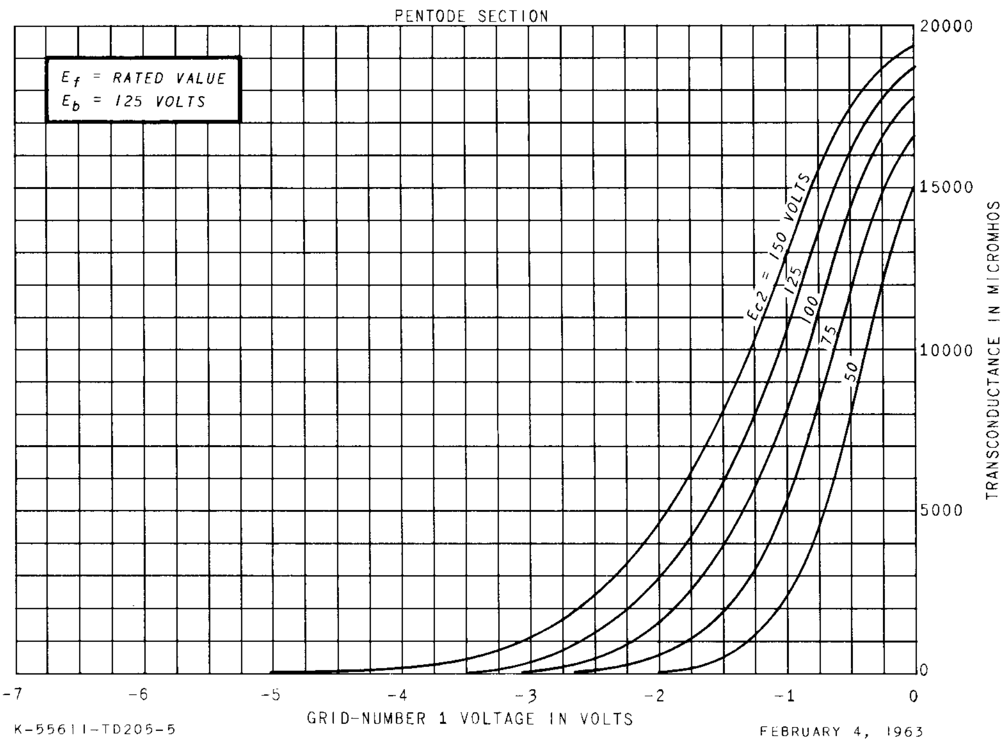


K-55611-TD205-3 FEBRUARY 4, 1963

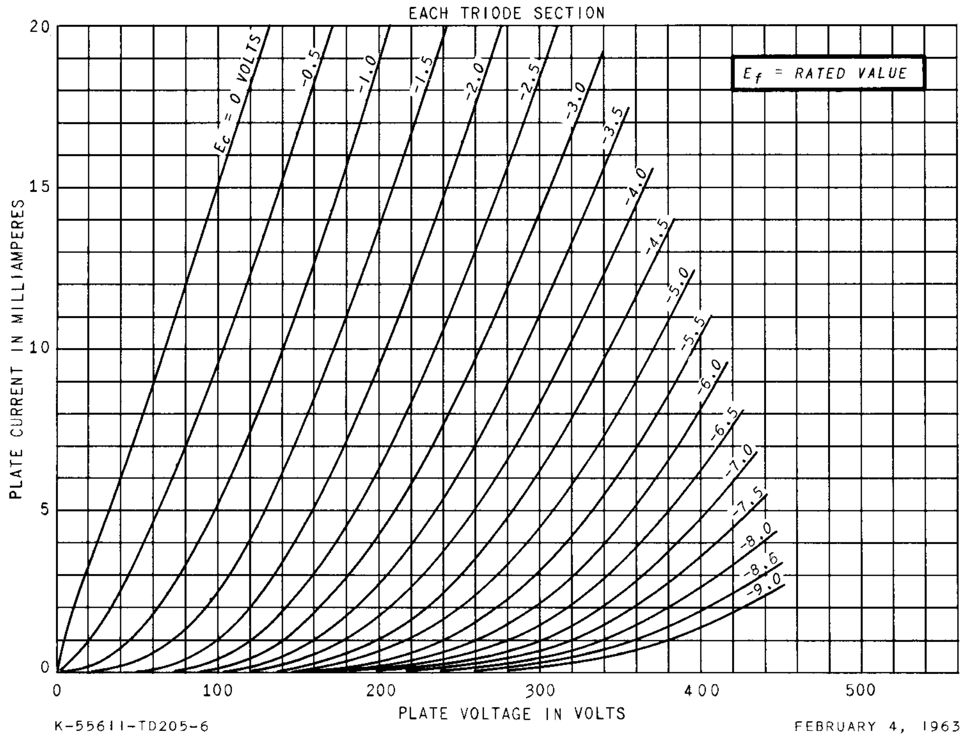
AVERAGE TRANSFER CHARACTERISTICS



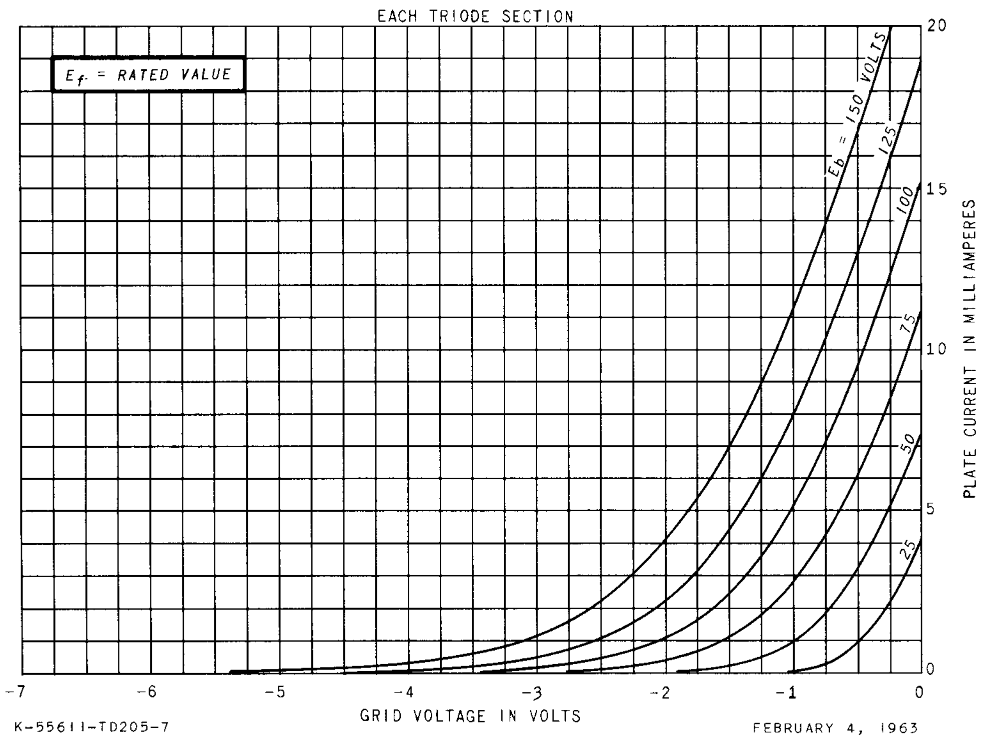
AVERAGE TRANSFER CHARACTERISTICS



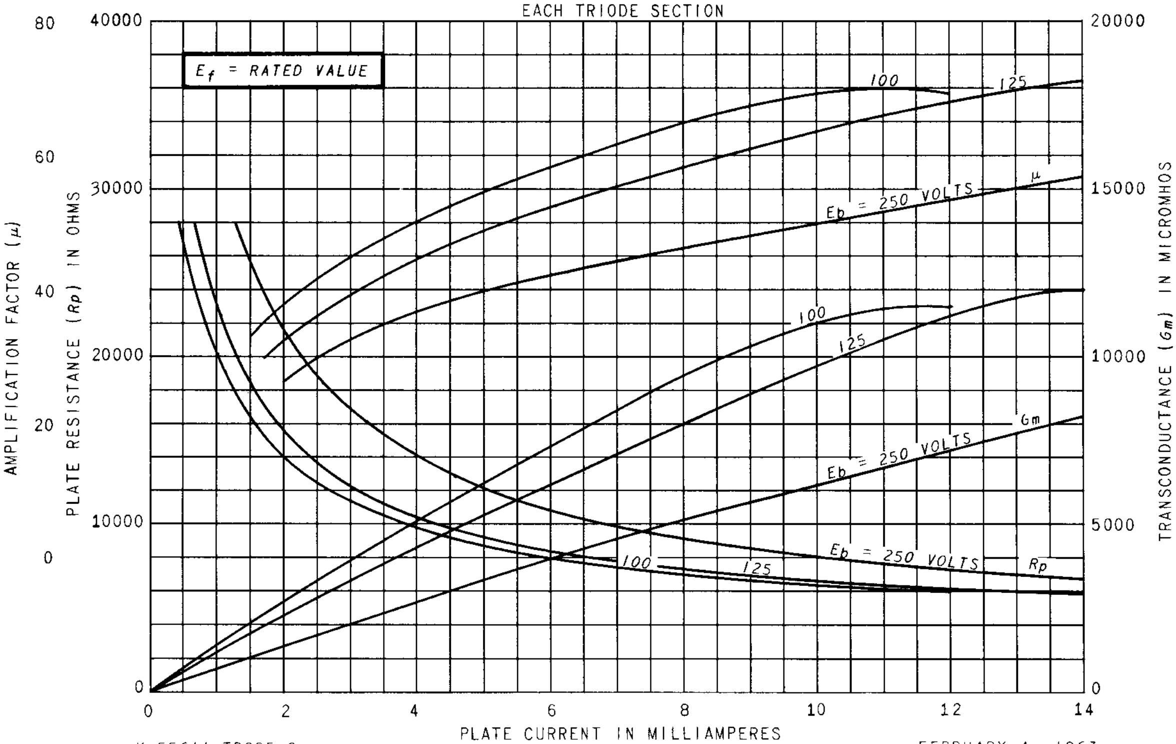
AVERAGE PLATE CHARACTERISTICS



AVERAGE TRANSFER CHARACTERISTICS



AVERAGE CHARACTERISTICS



K-55611-TD205-8 FEBRUARY 4, 1963